

Asthenia — Menstrual and Menopausal Disorders

Senility — Amenorrhea — Depressed

Metabolism

HORMOTONE

**A Combination of the Hormones of the Pituitary, Thyroid,
Gonads and Suprarenal**

There is no combination of gland substances used in medicine that has had a more extended clinical use than Hormotone. It was the first pluriglandular product in which there was a rational combination of endocrine substances based upon the physiological correlation of these glands in the body. Its therapeutic uses therefore are found in those conditions in which there is a lack of the stimulus which these glands normally supply. Hormotone is a combination of the gland substances which are physiologically grouped together as acceleratory, dissimilatory or tonic. These glands stimulate cell metabolism, cell function and excitability, increase respiratory exchange and cause profound physiological effects through an increase in the reactivity of the sympathetic system. They are the thyroid, adrenals, pituitary and gonads. In addition to these effects in increasing metabolism which will be referred to later and which are common to both the male and female, this group of glands is also active in the functional activity of the female sex organs and therefore in menstruation. By administering properly prepared products of these glands containing the internal secretions it has been found possible to substitute for, change and modify those physiological processes which are malfunctioning through disease. Thus Hormotone is indicated in such conditions as asthenia and senility in which there is lowered metabolism, in the menopause and amenorrhea in which there is a diminution of the thyroid and ovarian secretion and in

dysmenorrhoea and menorrhagia in which there is either a defective or lessened secretion of these glands. These effects of relieving such symptoms can not be attained by single gland therapy. Synergistic action of the glands is apparently necessary to produce therapeutic changes in the same manner that it is necessary in normal physiology. Blair Bell (*The Pituitary*, 1919, p. 179) expresses this as follows:

"It is possible that the reason why physiologically active secretions of various organs, such as the ovary, the suprarenal cortex and the anterior lobe of the pituitary, have not been obtained and utilized therapeutically is because they do not produce their effects single-handed; they must either be activated by or combined with some other substance, as they are normally in the body, before they can give effect to any properties they may possess. We have direct evidence of this in the activity of the implantations of the structures mentioned as opposed to the inactivity of their extracts."

Pluriglandular therapy follows as a logical and necessary step the recognition of the intimate interrelationship existing between the endocrine glands — one of the most firmly established facts in the field of pure physiological endocrinology.

While endocrine diagnosis is always directed to identifying the gland primarily or predominantly at fault, the almost certain involvement of other glands of the same endocrine group must be taken into account in therapy. It is a very common experience to find that, after a diagnosis of the gland responsible for the greater part of the clinical picture, therapy with the single gland product will fail and pluriglandular therapy will succeed. Therapy is pluriglandular, therefore, in recognition of two fundamental principles: 1. definite synergism between the gland substances used in organotherapy; 2. constant involvement in disease of any gland or practically all members of the same group. The marked trend of organotherapy today is in this direction and is well expressed by Abadal: "In the same way as I have built up a pluriglandular theory I have associated the glandular extracts to the point of almost entirely eliminating



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from my *materia medica monoglandular organotherapy*. I diagnose the insufficiency of an element (or component) of the adrenal group and the organotherapy I employ bears a relation to the entire group; hypofunction of the suprarenals, of the thyroid, of the hypophysis, etc., I treat with multiglandular extracts, of course in doses that can be tolerated, convinced by experience that the improvement is much more rapid, and contraindications may thus be eliminated."¹

The glands entering into the composition of Hormotone are the thyroid, suprarenals, pituitary and gonads. A survey of the action of these several glands will show why Hormotone is such a valuable therapeutic agent, for it takes advantage not only of these several pharmacologic actions, but also of the synergism or mutually reinforcing action existing among them.

Thyroid — Thyroid stimulates the cell metabolism in a manner not equaled by any other substance used in medicine. Prof. Hoskins says: "Another promised field for therapeutic investigation is the utility of thyroid as a non-specific drug. The thyroid hormone appears to be a general cell stimulant and, hence, to be widely indicated in conditions in which depressed functional activity is a predominant feature."²

The thyroid is also interrelated with other endocrine organs in the regulation of the process of menstruation, sex development, and during pregnancy hypertrophies, to compensate for added functional requirement, and some hypertrophy at the time of the menstrual period is not uncommon.

Adrenals — In discussing the factors which influence metabolism, Prof. Jos. C. Aub³ says "Apparently the two glands which most influence the total metabolism are the thyroid and the suprarenal (probably by epinephrin). . . . The gonads are also a factor, although a minor one."

The effect of adrenal therapy (epinephrin) has been found by many investigators to definitely raise metabolic rate.

Boothby and Rountree⁴ found that it regularly caused a definite (over 10%) elevation of the basal metabolic rate, and that it has a pronounced calorogenic action reaching a maximum within a few minutes. Tomkins, Sturgis and Wearn,⁵ and Sandiford⁶ have also demonstrated a constant rise in the metabolism, arising within a few minutes after injection of large doses of epinephrin, and Aub⁷ has reported that removal of the adrenals in cats is followed by a rapid reduction of the metabolic rate. Boothby and Sandiford⁸ also find subcutaneous injection of

Extracts of thyroid, corpus luteum, anterior lobe of pituitary were used separately and effectively. The majority were treated with hormotone as follows:

"Forty-six of the fifty cases so treated were relieved. In some cases pain was not abolished, but diminished, and in all forty-six cases the patients were enabled to work throughout the period in comparative comfort."

Menopause.

(5) The pathogenesis of the serious disturbances occurring at the menopause is believed to be failure of ovarian secretion with consequent affection and dysharmony of the other endocrine glands. As a regulator of endocrine function in such conditions, Hormotone is invaluable.

Senility.

(6) In premature senility and the debility of old age, the acceleration to metabolism given by the "adrenal chain" of endocrine glands is needed.

"For reasons less obvious and in a manner less dramatic than the menopause, the conditions surrounding the mere advance of years tend to produce inadequacy of the thyroid function. It is not that the thyroid gland declines more rapidly than the other internal secretory glands, for all of them, even including the spleen, tend to diminish both in size and activity as the years advance. It is that the thyroid gland is so important to the economy that any diminution in its activities reflects itself unmistakably in a great many directions."¹¹

For the several conditions in which it is used Hormotone may be taken in a dosage of from 1 to 2 tablets three times daily. In vascular hypertension use Hormotone without post-pituitary.

Bottles of 100 Tablets.

¹Abadal, *La Semana Medica*, May 13, 1920.

²R. G. Hoskins, *Journal of the A. M. A.*, July 8, 1922.

³Joseph C. Aub, *Journal of the A. M. A.*, July 8, 1922.

⁴Boothby and Rountree, "Drugs and Basal Metabolism," *Journal of Pharm. and Exp. Therapeutics*, Sept., 1923, Vol. XXII, p. 59.

⁵Tomkins, Sturgis and Wearn, *Archives of Int. Medicine*, Sept., 1919, Vol. XXIV, p. 269.

⁶Sandiford, *Amer. Jour. of Physiology*, 1920, Vol. LI, p. 407.

⁷Joseph C. Aub, *Journal of the A. M. A.*, July 8, 1922.

⁸Boothby and Sandiford, *Amer. Jour. of Physiology*, 1920, Vol. LI, p. 200.

⁹Biedl, *The Internal Secretory Organs*, 1913.

¹⁰Engelbach, *Medical Clinics of North America*, 1920, 665-694.

¹¹Leonard Williams, "Minor Maladies," 1918.

CLINICAL REPORTS

GENTLEMEN:

Some time ago you sent me for personal use in my practice a sample bottle of Hormotone Tablets. Perhaps you would be glad to know of what use I have put them to and I am glad to write you as follows: Had a patient 35 years, healthy, single lady, who in June, 1922, was operated on for an ovarian cyst and had one ovary removed. Two weeks ago she complained of a trembling in her lower limbs and a general feeling of fatigue. I put her on one tablet t. i. d. p. c. and now after two weeks she admits the trembling is gone and she feels better all around. I still have her on them because I feel that with the loss of one ovary, the tablets will fill in the required ovarian substance of the body's needs. I enjoy reading your little pamphlet.

Very truly,

_____, M. D.

GENTLEMEN:

Prescribed your Hormotone *twice yesterday*. Have been getting all claimed for it within its range of action and that range is not only *important* but quite *broad* for an agent of this sort. The various *neurasthenic* types is the field in which Hormotone excels.

Yours truly,

_____, M. D.

GENTLEMEN:

Hormotone is the best preparation I have ever struck for senility. I have prescribed it to many cases where patients were over 70 and the results were remarkable.

Yours truly,

_____, M. D.

GENTLEMEN:

We are writing to thank you for the bottle of Hormotone Tablets, which we have used in our family and beg to advise you that they did much good. They seem to be just the thing for the climacteric period, subduing the menopausal storms, controlling hysterical disorders, and melancholy attacks. We are, therefore, ordering from you a bottle of 500 Hormotone Tablets at once. Kindly advise the price of same and we will remit a check at once.

Very truly yours,

_____, M. D.

GENTLEMEN:

The Hormotone, etc., has proved of much benefit in a case of senile lack of vitality. When used with pepsin tablets the increase of strength and vitality was quite marked.

Yours truly,
_____, M. D.

GENTLEMEN:

I have used Hormotone with striking results in the following case. A patient—a young girl—stopped menstruating and became enormously fat. I put her on Hormotone and in a very short time normal menstruation was brought about and the obesity was reduced to normal.

Yours truly,
_____, M. D.

Quarterly Journal of Medicine. Vol. 15, No. 60, July, 1922.

Case 1. Female aged 43. Adiposity since birth of last child, increasing last 18 months. Dysmenorrhea, scanty menstruation, constipation. Suggest hypopituitarism. B. M. R.—8.3%. Treatment:—Thyroid extract at first; slight effect. Hormotone afterwards; great improvement.

Case 4. Female aged 32. Duration of illness 3 years. Nervous colitis, asthma. Following childbirth. Nil stools, attacks generally at night; both temporarily cured by adrenalin injections. B. M. R.—13%. Treatment:—Hormotone, thyroid extract. No attack since treatment established.

Lancet. September 2, 1922. "Malnutrition of Infantile Dystrophies."

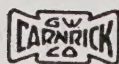
Case 4. Female, mongol, aged 15 weeks. Weight 10 lb. 1 oz. On discharge 13 lb. 3 ozs. Rise of weight coincident with administration of Hormotone.

Case 5. Female, admitted aged 15 weeks. For 17 weeks no gain of weight despite careful feeding. Then on lactified milk in four weeks gained 1½ lb. but a greater improvement in general condition and mentality occurred with the administration of Hormotone, though thyroid previously had had no effect.

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